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Indian Standard

RECOMMENDATIONS FOR SAFETY REQUIREMENTS FOR FUEL TANK ASSEMBLY OF AUTOMOTIVE VEHICLES

- 1. Scope Covers the safety requirements for the integrity and security of fuel tanks, fuel tank filter pipes and fuel tank connections, used on automotive vehicles to minimize fire hazard resulting from fuel spillage during and after crash/collision.
- 1.1 This standard applies to passenger cars, multipurpose passenger vehicles, trucks and buses.
- 2. Definitions For the purpose of this standard, the following definitions shall apply.
- **2.1** Fuel Tank Assembly Any container on the automotive for storing liquid fuel to be used by the power unit of the automotive. It includes all fittings which are integral with the storage unit.
- **2.2** Fuel Spillage This means the fall, flow or run of fuel except through the supply line to the prime-mover from the vehicle fuel system.

3. General Requirements

3.1 Location

- 3.1.1 No part of the fuel system shall constitute the widest part of the vehicle. Rear view mirrors and side mounted lights shall be ignored in determining the points of maximum width of the vehicle.
- 3.1.2 No part of the fuel tank shall be in front of the vertical transverse plane passing through the centre line of the front wheels.
- 3.1.3 No part of the fuel tank or the filler pipe shall be located within or above the vehicle cabin or any other enclosed passenger or goods area unless separated by a metal or other approved fire resistant barrier designed to prevent any leakage from entering the driver's cabin or any other enclosed passenger or goods area.
- **3.1.4** A minimum distance of 35 mm shall be maintained between any part of the fuel tank and exhaust pipe unless a heat shield is interposed.

3.2 Design Requirements

- 3.2.1 The design of the fuel system shall not provide for gravity or self-sustaining feed from the tank to the carburettor or fuel pump.
- 3.2.2 The filler pipe shall be designed and protected in such a way that overflow from a filling operation would be prevented from spilling on any part of the exhaust or electrical system.
- 3.2.3 At least one safety vent shaft shall be provided on the fuel tank system which is above the fuel level, when it is filled to the maximum designed capacity.
 - 3.2.4 No safety vent shall discharge into an enclosed compartment.

4. Performance

- **4.1** From a tank filled with liquid fuel, the rate of leakage from a fuel tank and fittings shall not exceed 50 g/min, when inverted for five minutes relative to its installed position on the vehicle. The fuel outlet pipe connection shall be plugged while carrying out the test.
- 4.2 Each fuel tank shall be fitted with a safety vent of size not less than the diameter given below:
 - a) Automotive vehicles weighing up to 6 000 kg 1.6 mm
 - b) Automotive vehicles weighing above 6 000 kg 2 0 mm.
- 4.3 Pressure Test The fuel tank shall be capable of withstanding without leakage an internal pressure of 130 kPa (1'3 atmosphere). Change of shape may be permitted.

EXPLANATORY NOTE

This standard is one of the series of Indian Standards on safety requirements of various automotive components.

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TO

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(Page 1, clause 3.1.3) — Delete.

AMENDMENT NO. 2 APRIL 1994 TO

IS 12056: 1987 RECOMMENDATIONS FOR SAFETY REQUIREMENTS FOR FUEL TANK ASSEMBLY OF AUTOMOTIVE VEHICLES

(Page 1, clause 4.3) — Substitute the following for the existing:

'4.3 Pressure Test — The fuel tank shall be capable of withstanding without leakage an internal pressure of 130 kPa (1.3 absolute) when tested for 5 minutes. Change of shape may be permitted.'

(TED 6)